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Turning Los Angeles wastewater to tap water

Politics killed a 1990s plan to recycle, but drought, technology and Orange County's success offer hope.

By Rich Connell, Los Angeles Times Staff Writer

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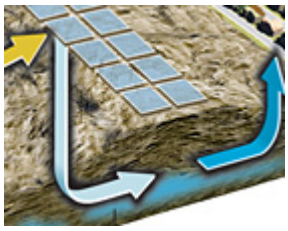
In a conference room atop a downtown Los Angeles tower, Mayor Antonio Villaraigosa's point man on water conservation was confidently ticking off the protections built into a plan to recycle highly treated sewage effluent into the drinking supply.

But when his staff explained that community meetings on the project might not begin until early next year, H. David Nahai quickly grew uneasy.

- 

  Graphic: Recharging the water supply

- L.A. prepares massive water-conservation plan

That's too slow, too risky, the Department of Water and Power general manager told his team.

"Folks on the street who'll hear about wastewater treatment [may] have some reticence about it. . . . The more this languishes, the more the fires of suspicion are going to get fanned.

"We need to go out quicker."

The recent session captured the larger political dynamics of Villaraigosa's ambitious new effort to wean Los Angeles from its increasingly precarious dependence on distant water supplies.

With a statewide drought, a broad spectrum of early political support and new purification technologies, administration officials think they are well positioned to begin a years-long transition to wastewater recycling for household use.

But a long shadow is still being cast by the multimillion-dollar collapse of a similar effort eight years ago, when water recycling was dubbed "toilet to tap" and the issue became mired in a mayoral campaign and the San Fernando Valley secession effort.

"The public piece is always the key," said Raphael Sonenshein, a political science professor who has written about the city's secession era. "You can say the climate is better. It doesn't mean it's going to be smooth sailing."

Both the scientific and political climates are important, officials acknowledge. At this point at least, each appears more favorable for Villaraigosa than for his most recent two predecessors, both of whom wrestled with wastewater recycling.

One of the biggest differences environmentally is that Los Angeles will no longer be blazing the trail of water recycling, which has won public acceptance in other regions, most notably Orange County.

There, officials use multistage, state-of-the-art reverse osmosis, microfiltration and ultraviolet light exposure with hydrogen peroxide to take sewage effluent to near-distilled water quality. The water is then pumped to spreading grounds, where it filters through purifying substrata to mix with underground supplies serving 2.3 million residents across the county.

"The quality is extraordinary when you run water through that level of treatment," said Mark Gold, president of Heal the Bay, an environmental group involved in coastal and groundwater quality advocacy.

Nahai said Los Angeles would follow similar recycling steps in its plan to begin adding about 4.3 billion gallons of treated water annually in 2018 to groundwater under the San Fernando Valley.

During the time it will take to get approvals and build treatment facilities, technology is likely to advance so the city can use even more refined purification systems, Nahai said.

Indeed, galloping technology is presenting new solutions as well as new questions about water quality, including recycled water.

Testing has become increasingly sophisticated, finding trace levels of new pollutants and giving rise to concerns about so-called emerging contaminants. They include pharmaceuticals, antibiotics and an array of what are called endocrine disrupters, which have been found to affect development in fish.

California health officials have not established safe levels for these emerging chemicals because data on health effects for many of the compounds are not yet available. Nor are there approved methods of conducting analyses of such chemicals in water, state health officials told The Times.

For recycling treated wastewater into underground supplies, the state requires information-only monitoring for the emerging pollutants while encouraging the water industry to help develop standardized testing procedures.

Such efforts will help the state Department of Public Health "determine how effective the existing treatment technologies are performing," the agency said in a statement.